

TO ALL WHOM IT MAY CONCERN

SPECIFICATION

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BE IT KNOWN THAT WE, Yasuko Yokobori, a citizen of Japan residing at Kawasaki, Japan and Yumiko Tanaka, a citizen of Japan residing at Kawasaki, Japan have invented certain new and useful improvements in

NETWORK COMMUNITY SUPPORTING METHOD AND SYSTEM

of which the following is a specification : -

# NETWORK COMMUNITY SUPPORTING METHOD AND SYSTEM

1. Field of the Invention

The present invention relates to a network community supporting method and system, and, in particular, a network community supporting method and system suitable for extracting real intention such as characteristics, lifestyles, subconscious needs and so forth of a user class (class of users) of products/services.

2. Description of the Related Art

In order to provide better products/services, questionnaire research, group interview and so forth have been performed thereon, in the related art.

Further, recently, electronic mail system and network community (employing electronic meeting room) are used for collecting comments of the user class on specific products and so forth.

However, through questionnaire research, group interview and so forth, characteristics of users such as lifestyles thereof, subconscious needs thereof are not likely drawn out.

For example, even when questionnaire is performed in which various ideas are applied for subjects, items, and/or way of answering of the questionnaires, and so forth, the questionnaire in which a number of letters is limited for giving each inquiry has a limit by itself. Accordingly, an intention of each inquiry is not clearly understood by a respondent, or, the respondent answers merely for items of inquiry which are given. Accordingly, it is very difficult to probe into real intention of

the users.

Furthermore, even when a interviewer is selected strictly, and, also, inquiry items are improved, because respondents are human beings, the respondents may go along easily with the interviewer, or make inaccurate answers as being tempted by gifts which will be given to the respondents after that. Although such respondents are not a majority, it is not possible to draw real intention of users, consequently.

Further, when an electronic bulletin board, an electronic meeting room or the like is used for collecting comments of users on specific products and so forth, a relationship between the person who collects the comments and respondents is of one-way communication, and merely formal inquiries should be sent. Accordingly, it is not possible to deepen understanding therebetween and to collect opinions of the users after that. In fact, it is difficult to make inquiry to the respondents again in view of manpower, time, and, as forth. Also, it may be difficult to make an appointment with the respondents again. Furthermore, it is difficult to collect the same respondents again and again.

Further, through collection of comments/messages using questionnaire system, electronic mails, or the like through the Internet, it is not possible to obtain subconscious needs which the respondents themselves cannot know. Thereby, it is difficult to expect the characteristics of users such as lifestyles, subconscious needs thereof.

When electronic mail system is used, and, communication is made personally, and continuously, so as to deepen the contents communicated, the following problems may occur:

- ① The amount for which a staff in charge

Further, in a case of opinion exchange is made for specific products/services using an electronic meeting room through the Internet or the like, many opinions are collected from many participants. However, the following problems occur:

Further, because many opinions are collected from many participants, a problematic situation may occur such that the community becomes one which is separate from the original object when this community is left alone.

① The participants do not give constructive ideas, but merely exchange complaints.

③ Only some of the participants converse  
30 lively, but the others do not speak at all.

Accordingly, it is necessary to prepare many capable persons as managing staffs for the electronic meeting.

As the opinion exchange between users becomes complicated, many staffs are needed for

5 Further, even effective opinions are  
given/exchanged, there is no method of extracting  
characteristics of users such as lifestyles thereof,  
subconscious needs thereof and so forth therefrom  
established, yet. Accordingly, it is not possible  
10 to extract effective ideas.

The present invention has been devised in consideration of the above-mentioned problems, and, an object of the present invention is to provide a network community supporting method and system by which, by effectively utilizing such characteristics of a network community that it is possible to make communication between users bi-directionally, and information can be held by all the participants in common, it is possible to draw out voluntary messages of members, by utilizing themes which are used as common guidelines of the members, and, also, these messages are analyzed on comparison with the themes, thereby, message analysis results/theme analysis results being able to be obtained.

30                   a message database (for example, a message  
database 41, shown in FIG. 1) storing contents of a  
series of messages given by participants (persons  
using terminals 20<sub>1</sub> through 20<sub>n</sub> shown in FIG. 1, for  
example) of a network community together with a  
35 title part including at least message numbers,  
messaging dates/times, speaker identifies thereof;  
                  a part (for example, a community

supporting function part 34 in FIG. 1) analyzing characteristics of the messages concerning themes thereof based on at least one of the theme database and the above-mentioned title part and contents of the message database, and making the theme database latest.

Thereby, it is possible to provide the system and method by which characteristics of users (user class) such as lifestyles thereof, subconscious needs of users (user class) and so forth can be drawn out from the message database storing the messages of the user class.

The series of messages stored in the message database are information held in common between members. Accordingly, it is possible to hold communication between the members. Then, by this mutual stimulus, further messages of the members can be drawn out.

Further, the message database is information held in common between management staffs. Accordingly, the staffs can recognize what messages were drawn out from the members by the respective staffs mutually.

In comparison to use of an electronic mail system, it is possible to reduce the number of staffs needed for operating/managing the above-mentioned system and dealing with a large number of members. Accordingly, it is easy to secure the number and quality of management staffs.

By providing the theme classifying part and renewing/updating part, it is possible to make the information determined by the organizer of the community match the interest of the participants of the community. Accordingly, it is possible to achieve the following objects:

a) By publicizing the themes, it is possible to make participants previously know a type

b) It is possible to continuously deepen the contents, in comparison to use of an  
5 questionnaire system;

d) The management staffs can utilize the  
10 themes as guidelines for promoting the activity; and

The network community supporting system may further comprise:

a message grouping part (for example, a grouping part 30<sub>1</sub>, shown in FIG. 1) appropriately grouping the messages stored in the message database, based on relationship among the messages.

30           Thereby, by appropriately grouping the  
messages stored in the message database, based on  
relationship among the messages, it is possible to  
understand the flow of the discussion, and it is  
possible to easily perform appropriate  
35 division/correction of the titles of the messages.

The network community supporting system may further comprise:





part of the theme database. Thereby, it is possible to find out relationship therebetween, and to simply grasp the themes on discussion in relation to the themes stored in the theme database. The themes  
5 stored in the theme database are those to be used for drawing the real intention such as characteristics, lifestyles, subconscious needs of the user class on the products/services, and the organizer of the community can easily determine  
10 whether or not the community is operated according to the intention of the organizer.

By combining the grouping part and keyword part, it is possible to classify the themes by group units, and to improve the precision in  
15 classification.

It is possible to classify the themes by using not a large amount of data such as the contents of messages, but a small amount of data such as titles of messages. Accordingly, it is  
20 possible to save work needed for classification.

The network community supporting system may further comprise a theme renewing part (for example, a theme renewing part 30<sub>4</sub>, shown in FIG. 1) making the theme latest based on a message analysis  
25 interim output (for example, see FIG. 10), output based on the titles of the messages stored in the message database and the theme part or keyword part of the theme database.

The network community supporting method  
30 may further comprise a step making the themes latest, based on a message analysis interim output, output based on the themes or keywords concerning the theme.

Thereby, by making the themes latest, based on the message analysis results, output based  
35 on the themes or the keywords concerning the themes both stored in the theme database, the themes are made latest, and then, discussion is made/messages

are given, based on the latest/optimum themes.  
Accordingly, the themes are made latest flexibly.

Thereby, the themes along the interest of  
the participants, and, as a result, themes oriented  
5 toward the users are obtained. Accordingly, it is  
possible to cause the themes of the user class and  
the request of the organizer to match one another.

It is possible that the latest themes  
stored in the theme database are those on which the  
10 participants currently have the interest, and  
information itself which the organizer (providing  
the community) wishes to obtain.

The network community supporting system or  
method may further comprise or using:

15 a message analysis rule database (for  
example, a community analysis rule database 32,  
shown in FIG. 2) used for contriving guidelines for  
managing the community from the message analysis  
database; and

20 a community analyzing part (for example,  
30<sub>5</sub>, in FIG. 1) referring to the message analysis  
rule database, and outputting analysis results  
having instructions concerning management of the  
community added thereto.

25 Thereby, by referring to the community  
analysis rule database, grasping the situation of  
the activity of the community, and obtaining  
instructions concerning management of the community,  
it is possible to further promote the activity of  
30 the community effectively, and further draw messages  
of the participants.

The network community supporting system  
or method may further comprise or using:

35 a theme analysis rule database (for  
example, a theme analysis rule database 32<sub>10</sub>, shown  
in FIG. 2) used for analyzing the themes; and

a theme analyzing part referring to the

Thereby, it is possible to know real intention such as characteristics, lifestyles, subconscious needs or the like of the user class of the products/services.

The network community supporting system or method may further comprise or use a member database (for example, a member database 32<sub>6</sub> shown in FIG. 2) storing personal information of the participants of the network community,

25           Thereby, it is possible to draw the  
messages of the user class according to the  
characteristics of the members.

According to the present invention, based

on at least one of the title part and contents of  
the messages stored in the message database, the  
themes of the community are updated appropriately so  
that the themes become latest such as to be in  
5 accordance with the interest of the class of users  
on the products/services. Thereby, it is possible  
to obtain the lifestyles, subconscious needs, user  
characteristics concerning the products/services.

Further, the themes can be updated  
10 dynamically, and thus, the characteristics and  
subconscious needs of the users can be obtained.

Further, by generating/updating the  
message analysis database using the message database,  
the flow of the messages can be easily grasped.

15 By using the keyword part of the theme  
database, and making connection between the titles  
of the messages of the message analysis database and  
the themes, it is possible to dynamically updating  
the themes according to change in interest of the  
20 members.

By making the object of the community  
provider and the interest of the members to match  
one another, it is possible to obtain information of  
the users (user class) along the object.

25 It is possible to obtain characteristics  
of user class such as lifestyles, subconscious needs,  
and so forth from the renewed latest themes.

Further, it is possible to obtain  
effective messages.

30 In fact, themes along the interest of the  
members are declared, and conversation among the  
members are promoted. Thereby, it is possible to  
prevent merely complaints against the  
produce/service from occurring.

35 By renewing the themes of activity, it is  
possible to prevent nonsense chattering, fighting  
among the members, and so forth from occurring.

5 As the message database is held by the members in common, and activity between the members is promoted using the themes as guidelines therefor, it is possible to collect natural comments useful for the theme analysis.

By also using the member database together,  
15 it is possible to perform careful/detailed analysis,  
and, the results can be used for further drawing  
messages and further theme analysis.

20           In fact, by using the message database in  
common among the members and staffs, a load borne by  
each staff can be considerably reduced. In  
25           comparison to use of an electronic mail system, it  
is possible to easily secure required quality of the  
management.

30           Other objects and further features of the  
present invention will become more apparent from the  
following detailed description when read in  
conjunction with the accompanying drawings.

FIG. 1 shows a concept drawing of a network community supporting system in one



system 40, community managing staff terminals 50<sub>1</sub>  
through 50<sub>m</sub>, a product/service planning staff  
terminal 60<sub>1</sub>, a product/service developing staff  
terminal 60<sub>2</sub> and so forth. The community supporting  
5 system 30, community system 40, community managing  
staff terminals 50<sub>1</sub> through 50<sub>m</sub>, product/service  
planning staff terminal 60<sub>1</sub>, product/service  
developing staff terminal 60<sub>2</sub> and so forth are shown  
in the figure as separate units. However, it is  
10 also possible that arbitrary terminals/systems  
thereof are combined together. For example, the  
community managing staff terminals 50<sub>1</sub> through 50<sub>m</sub>  
may be included in the community supporting system  
30, or the community managing staff terminals 50<sub>1</sub>  
15 through 50<sub>m</sub> may be included in the community system  
40. Further, the various analysis result 33 may be  
included in the community system 40.

Further, under a condition in which  
security is secured, the community supporting system  
20 30 may be connected to the communication network  
directly.

The community supporting system 30  
includes an application providing a system for  
drawing messages of a user class (including  
25 subconscious users) on products or the like. By  
this application, management/operation of a  
community mutually connecting the users using an  
electronic medium (for example, an electronic  
meeting room) is supported. Thus, this application  
30 is a measure to extract real intention of the user  
class of the products or the like.

For example, the community supporting  
system 30 includes a community supporting storage  
part 32 and a community supporting function part 34.  
35 The community supporting function part 34 includes a  
message grouping part 30<sub>1</sub>, a message title modifying,  
generating and dividing part 30<sub>2</sub>,

a message theme classifying part 30<sub>3</sub>, a message theme renewing part 30<sub>4</sub>, a community analyzing part 30<sub>5</sub>, and a theme analyzing part 30<sub>6</sub>.

5 The message grouping part 30<sub>1</sub> groups messages based on relationship between the messages. For example, grouping of messages is performed by using link relationship between the messages.

10 The message title modifying, generating and dividing part 30<sub>2</sub> performs modification, generation and division of titles of the messages.

The message theme classifying part 30<sub>3</sub> classifies the messages to the relevant themes, by using the keywords of the keyword part of the above-mentioned theme database.

15 The theme renewing part 30<sub>4</sub> makes the themes be the latest ones based on interim outputs output based on the titles of the messages stored in the above-mentioned message database and the theme part and keyword part of the above-mentioned theme databases.

20 The community analyzing part 30<sub>5</sub> performs analysis of the community, by referring to a community analysis rule database.

25 The theme analyzing part 30<sub>6</sub> performs theme analysis based on a theme analysis rule database.

30 The community supporting storage part 32 is a storage part in which data used by the community supporting system 30, results obtained through processing by the community supporting system 30 are stored, and includes a planning document storage part, a design document storage part, the theme database, member database, a message analysis database, the message analysis rule database, a message analysis result storage part, the community analysis rule database, a community analysis result storage part, a theme analysis rule



database and a theme analysis results storage part,  
in a separate manner.

Members of the member class previously  
register themselves in the community supporting  
5 system 30 through the member terminals 20<sub>1</sub> through  
20<sub>n</sub>, and participate the community system 40  
supported by the community supporting system 30, via  
the communication network 10 such as Internet.  
Information of the registered members is stored in  
10 the member database of the community supporting  
storage part 32. The members of the user class can  
access a message database 41 of the community system  
40. However, they cannot access the community  
supporting system 30.

15 The community system 40 has the message  
database 41, and, provides a field in which the  
members can freely gives opinions or proposals. The  
community system 40 has the member function 42  
enabling the members to give opinions or proposals  
20 and the management staff function 43 for staffs who  
manage/operate the community system 40.

In the message database 41, titles of  
messages given by the members of the user class, and  
the contents of the messages are stored in divided  
25 title part and content part thereof, respectively.

The community supporting system 30 updates  
themes to the latest ones in accordance with the  
interest of the members so that the members can give  
opinions or proposals, freely, independently.

30 Through the product/service planning staff  
terminal 60<sub>1</sub>, product/service developing staff  
terminal 60<sub>2</sub> or the like, it is possible for staffs  
to obtain real intention of the user class on  
products or the like, by directly accessing the  
35 community system 40 via the communication network 10,  
or by accessing the theme analysis result storage  
part of the community supporting storage part 32 of

the community supporting system 30 indirectly or directly.

The community management staffs manage the community system 40 by accessing the community system 40 and community supporting system 30 via the community management staff terminals 50<sub>1</sub> through 50<sub>m</sub>. The community management staffs are those whom staffs participating the management acting as an organizer as being divided into those who perform planning, those who actually manage the community, those who analyze messages of the member, and so forth, are generically called.

Further, the organizer is an organizer who manages the community according to the present invention as a main part, and, it means the above-mentioned community management staffs or a CPU (not shown in the figure) which is provided in the community supporting system 30.

FIG. 2 shows a summary of a method of supporting the community in the embodiment of the present invention.

FIG. 2 shows processing 1 through 9 concerning management/operation of the community, the community system 40 and community supporting storage part 32 of the community supporting system 30. The community system 40 has the message database 41. The community supporting storage part 32 has the planning document storage part 32<sub>1</sub>, design document storage part 32<sub>2</sub>, theme database 32<sub>3</sub>, message analysis database 32<sub>4</sub>, message analysis result storage part 32<sub>5</sub>, member database 32<sub>6</sub>, community analysis result storage part 32<sub>7</sub>, theme analysis result storage part 32<sub>8</sub>, community analysis rule database 32<sub>9</sub>, and theme analysis rule database 32<sub>10</sub>.

The processing concerning management of the community includes planning of the community (1),



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Specifically, the activity between the

members is promoted, messages given there are followed, and further messages are drawn therefrom, along the themes. Promotion of the activity is performed referring to the member database 32<sub>6</sub> and  
5 theme database 32<sub>3</sub>.

After the messages are accumulated more than a predetermined number of messages, the organizer of the community uses the message database 41, and analyses the messages (7). Specifically,  
10 the organizer performs the following processing:

① The title part A1 and content part A2 of the message database 41 are referred to, and, by using relationship, for example, link relationship between the messages, the messages are grouped and  
15 corrected appropriately. The results thereof are stored in the message analysis database 32<sub>4</sub>.

② The titles of the messages thus stored in the message analysis database 32<sub>4</sub> are classified into the predetermined themes by using the keywords  
20 of the theme database 32<sub>3</sub>. Thereby, the message analysis outputs are produced.

③ Change in interest of the members is examined, and, the themes are made latest. By the thus-renewed (latest) theme, the theme database 32<sub>3</sub>  
25 is updated.

Further, classification of the messages is performed by using the latest theme database 32<sub>3</sub>, the message analysis result storage part 32<sub>4</sub> is updated. Then, the message analysis results are  
30 output.

Community analysis is performed by referring to the latest theme database 32<sub>3</sub> and message analysis rule database 32<sub>4</sub>, and referring to the community analysis rule database 32<sub>9</sub> (8).  
35 Thereby, the messages are followed. Thereby, items which should be followed (follow items) are found out. For example, a case where no response has been

made to an inquiry is found out. In such a case a message may be output automatically.

Then, change in interest of the members is confirmed, and, according to the latest themes, the  
5 messages are followed, and further messages are drawn out.

When a request is given by another division in the community management organizer such that user characteristics such as lifestyles,  
10 subconscious needs thereof are wished to know, the organizer of the community performs theme analysis based on the latest theme database 32<sub>3</sub> and message analysis database 32<sub>4</sub> (9). At this time, the organizer refers to the theme rule database 32<sub>9</sub>, and,  
15 as the necessary arises, refers to the theme analysis rule database 32<sub>10</sub>.

The thus-obtained theme analysis results are stored in the theme analysis result storage part 32<sub>8</sub>. The real intention stored in the theme  
20 analysis result storage part 32<sub>8</sub> is used through the product/service planning staff terminal 60<sub>1</sub>, product/service developing staff terminal 60<sub>2</sub> and so forth.

Design and building of various databases  
25 will now be described with reference to FIGS. 3A, 3B and 3C.

The organizer of the community designs/builds the theme database 32<sub>3</sub>, member database 32<sub>6</sub> and message database 40.

30 FIG. 3A shows an example in which themes are temporarily set in the theme database 32<sub>3</sub>. The theme database 32<sub>3</sub> includes the theme part and keyword part, as mentioned above.

① As the set themes set in the above-  
35 mentioned process (3) are used as guidelines, the theme part of the theme database is generated. As shown in the figure, the theme part includes a high

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And Keywords: When a not keyword exists in the title of message, an and keyword exists therein and, also, a main keyword exists therein, the message is classified into the theme ID.

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Publicizing to the target market will now

be described with reference to FIGS. 4A and 4B.

The organizer of the community refers to the theme database 32<sub>3</sub>, and advertises the object and themes of the community and publicizes them to the target market so as to cause the user class thereof to participate the community. Publicizing is made internally and externally of the network community 40 (in a step S41).

A person who wishes to participate the community enters necessary matters in a network community entrance application form 42, and applies for the entrance, as shown in FIG. 4A, for example. Entering into the network community entrance application form 42 may be made via the network or made on paper.

When it is made via the network, information of the returned network community entrance application form may be stored in the member database 32<sub>6</sub> as it is, as shown in FIG. 4B, for example (in a step S43)

With reference to FIGS. 5A and 5B, the theme promotion activity will now be described.

The organizer of the community promotes activity along each theme (in a step S51). Specifically, along the theme, activity among the members is promoted, messages are followed, and further messages are drawn from the members.

In the promotion of activity, a staff reads the messages stored in the message database 41, produces messages/comments using the themes of the theme database 32<sub>3</sub> as guidelines, and sends them to the community system 40 (in a step S52).

Further, by the member function 42 of the community system 40, the title part and contents part of the message database 41 are transmitted to the terminal of a member as the request is made by the member, a title is given to each message



transmitted to the network community by the terminal of a member, and is stored in the message database 41 (in a step S53).

For example, as shown in FIG. 5A, message number, speaker ID, messaging date/time, comment destination, title of message and so forth are stored in the title part A1 of the message database 41 (in a step S54). Further, for example, as shown in FIG. 5B, the message number, message contents and so forth are stored in the contents part A2 of the message database 41 (in a step S55).

After the predetermined number of messages are accumulated, the organizer of the community generates and updates the message analysis database and renews the theme database.

With reference FIG. 6, processing thereof will now be described.

The organizer uses the message database 41, and analyzes the messages.

Specifically, the community supporting system 30 performs the following two types of processing:

- The title part A1 and content part A2 of the message database 41 are referred to, and, for example, by using link relationship between the messages, grouping of the titles of the messages is performed. The results thereof are stored in the message analysis database 32<sub>4</sub> (in a step S61).

- The analysis title part (title part for analysis) of the message analysis database and the theme database are referred to, and analysis of themes of the messages is performed. Further, according to change in interest of the members, the themes are made to be the latest ones (renewal). The latest (renewed) themes are used to update the theme database 32<sub>3</sub> (in a step S62).

A part or all of the processing of the

steps S61 and S62 is repeated as the necessity arises, and, thus, the accuracy of message analysis is improved. Finally, the message analysis results are output.

5           The contents of this processing will now be described in sequence.

          (1) The title part A1 and content part A2 of the message database 41 are referred to, and, for example, by using link relationship between the  
10 messages, classification and correction thereof are performed. The classified and corrected results are stored in the message analysis database 32<sub>4</sub> (in the step S61).

          ① The contents of the title part A1 of  
15 the message database 41 are stored in the message analysis database 32<sub>4</sub>.

          For example, as shown in FIG. 7A, the title part A1 of the message database 41 shown in FIG. 5A is copied, and is stored in the message  
20 analysis database 32<sub>4</sub> at the columns of message number, member ID, messaging date, comment destination and title of message. The message number is given in order of date/time. The member ID may be a mail address, or a name. Zero is set in  
25 the comment destination column when the message has neither parent standpoint nor child message. When the comment destination has no number, an alarm message is output, zero is set thereto, and it is regarded as a parent message.

30           ② The respective messages are grouped according to the comment link relationship.

          For example, as shown in FIG. 7B, grouping is made, and, a group ID is given to each group. The message number 001 has no link relationship, and,  
35 therefore, is of a group by itself (group ID: 001). The message numbers 002 through 004 are of messages derived from the message number 002 as a parent, and



which is stored in the to-be-analyzed title part (analysis title part).

④ The comment destination is changed/modified as the necessity arises according to the following logic, and, the thus-obtained one is stored in the to-be-analyzed title part:

i. When a divided message has a child message, the comment destination of the child message is changed according to instructions.

• When instructions for changing the comment destination are given, in accordance therewith, the comment destination is changed into a message number which specifies a comment destination in the to-be-analyzed title part of the message analysis database 32<sub>4</sub>.

• When no instructions for changing the comment destination are given, a branch number '-1' is added to the comment destination.

ii. In a case where a divided message is a child message, and, also, it is a parent message of a generation 1 in itself, the comment destination is changed into '000'.

iii. For one which is not divided, or for one which has not a link relationship originally, a link relationship is corrected/generated, when instructions are given.

For example, as shown in FIG. 8A, the comment destination of the message titled 'Hello' of the member ID: DDD04567 and numbered 004 is originally '002'. However, the message number 002 includes two different contents, and, the message 'Hello' of the member ID: DDD04567 numbered 004 thereof is a message for '002-2' divided from the original '002'. Accordingly, the comment destination is changed into '002-2', which is then stored in the to-be-analyzed title part. Similarly, 'Hello' of the member ID: CCC03456, numbered 003 is

modified, and, the modified one is stored in the to-be-analyzed title part.

Further, the contents of the message 'Menu for girl's festival for baby' of the member ID: FFF06789, numbered 007 is a message for 'Menu for girl's festival' numbered 006 of the member ID: EEE05678. Accordingly, the comment destination thereof is modified into '006', which is then stored in the to-be-analyzed title part.

10 All or part of the contents of the message analysis database 32<sub>4</sub> and message database 41 are output in a form such that they can be viewed, appropriately. As the destination device of the output, a screen of a display unit, paper printed  
15 out from a printer, a disk of hard disk drive, floppy disk drive, or the like, may be considered.

⑤ The respective messages are further grouped according to the comment link relationship.

For example, as shown in FIG. 8B,  
20 according to the modified comment link relationship, grouping is performed again.

(2) According to change in interest of the members, the themes are made to be the latest ones. By the thus-renewed latest themes, the theme  
25 database 32<sub>3</sub> is updated (in a step S62).

① The to-be-analyzed (analysis) title part of the message analysis database 32<sub>4</sub> such as that shown in FIG. 9B is compared with the keyword part of the theme database 32<sub>3</sub> such as that shown in  
30 FIG. 9A, and, theme IDs meeting requirements are stored in the theme part of the message analysis database 32<sub>4</sub>. The result thereof is output in a form such that the result can be confirmed via human eyes (in a step S91).

35 i. Information of 'title of message' is taken for each 'message number' from the message analysis database 32<sub>4</sub>, and, 'theme IDs' which meet

the following requirements of the theme database are stored in the column of 'theme ID' of the message analysis database 32<sub>4</sub>:

• When any main keyword coincides with any part of the title of message, the theme ID is stored there.

• When not only a main keyword but also a not keyword exist in the title of message, the theme ID is not stored there.

• When both an and keyword and a main keyword exist in the title of message, the theme ID is stored there.

• Higher priority is given to a not keyword than to an and keyword.

• When there is no coincident keyword included in the title of message, zero is stored there.

ii. The contents of the result of the analysis of the messages (interim output) are output so as to be visually confirmed via human eyes. The destination device of the output is the display screen, printer, disk or the like.

• For example, the items to be output, and the display method are specified by parameters.

• When the theme ID is zero, 'others' is set in the level-1, and the title of the parent message is set in the level-2, for example.

FIG. 10 shows an example of the output of the results of the analysis of the messages (interim outputs). The output items are specified by parameters.

In this example, [] indicates the theme in level-1, and < > indicates the theme in level-2. For the respective themes, the titles of the messages classified by these themes are arranged in a hierarchical configuration together with the message numbers so that relationship between parent

and child of the link is understandable therefrom.

② When change of titles and/or modification of destinations is needed, the changed/modified contents are stored in the relevant parts of the to-be-analyzed title part (referred to as 'analysis title part', in the figures) of the message analysis database 32<sub>4</sub>, and, according to the thus-changed comment link relationship, grouping is performed again (in a steps S92).

③ The results of the analysis of the messages (interim outputs) are studied, and, when addition/modification of themes is needed, the theme database 32<sub>3</sub> is updated (in a step S93).

The updating of the theme database 32<sub>3</sub> has the following forms:

- A theme (level-1, level-2) is added, and a keyword is set.

- A theme (level-1, level-2) is modified.

For example, an output example of the results of the analysis of the messages (interim outputs) shown in FIG. 10 is studied, and 'event food' is added as a theme in level-1 and, 'girl's festival' is added as a theme in level-2 of the 'event food', as shown in FIG. 11A.

Further, in FIG. 11A, for the theme of 'milk', 'milk' is changed into 'powdered milk' as a theme in level-2 of 'milk', and, also, 'mother's milk' and 'follow-up milk' are added.

- A keyword is modified.

Based on the above-mentioned addition and modification of themes (level-1, level-2), keywords are set for the added/modified themes.

④ The processing of the above-mentioned ① is performed. As the necessity arises, ② is returned to (step S94).

The to-be-analyzed title part of the message analysis database 32<sub>4</sub> is compared with the

keyword part of the modified theme database 32<sub>4</sub>, and the theme IDs meeting the requirements are stored in the theme part of the message analysis database 32<sub>4</sub>.

⑤ When modification of the theme database 32<sub>3</sub> and message analysis database 32<sub>4</sub> comes to be not necessary in ④, the message analysis results are output.

For example, the final results of the message analysis database 32<sub>4</sub> in the analysis of the messages, as shown in FIG. 11B, are output in a form such as to be able to be confirmed visually via human eyes.

With reference to FIGS. 12A, 12B and 13, further promotion of the activity will now be described.

For example, the community analysis rule database 32<sub>9</sub> is used, and the community analysis results 32<sub>7</sub> (final outputs) shown in FIG. 12C are output.

The community analysis results 32<sub>7</sub> (final outputs) have, according to the rule, a follow-instruction message added thereto. According to the analysis rule, information of the member database 32<sub>6</sub> may be referred to.

As shown in FIG. 12A, the community analysis rule database 32<sub>9</sub> includes conditions and output messages.

For example, a rule 1 thereof is a rule for a case where, when 'a tree of a comment link is terminated by comments by a member at the end', 'isn't it necessary to follow the message?' is output.

According to the rule 1, as shown in FIG. 12C, with regard to 'event food', 'isn't it necessary to follow the message?' is output to the column of follow-instruction message of the community analysis results 32<sub>7</sub> (final output).



Then, in a step S121 in FIG. 13A, the organizer of the community follows the message, according to the latest theme, and draws further messages from the member class.

5 In the further promotion of the activity, a staff reads the messages in the message database 41, and, using the community analysis results 32<sub>7</sub> (final outputs) shown in FIG. 12C as guideline, produces messages/comments, similarly to the  
10 promotion of the activity shown in FIG. 5, which are then sent to the community system 40 (in a step S122).

Further, by the member function 42 of the community system 40, similar to the promotion of the  
15 activity shown in FIG. 5, the title part and content part of the message database 41 are transmitted to the terminal of a member in response to the request from the member, and, in response to messages in the network community 40 transmitted from the terminal  
20 of a member, stores the contents thereof in the message database 41 together with the title thereof (in a step S123).

Similar to the promotion of the activity shown in FIG. 5, the message number, speaker ID,  
25 messaging date/time, comment destination, title of message, and so forth are stored in the title part A1 of the message database 41 (in a step 124). Further, the message number, contents of message and so forth are stored in the content part A2 of the  
30 message database 41 (in a step 125).

With reference to FIG. 14, analysis of the real intention of the user class will now be described.

Based on the contents of the message  
35 analysis database 32<sub>4</sub>, user characteristics such as life styles, subconscious needs and so forth of the user class, needed for activity of the enterprise or

the like are found out (in a step S131).

According to the theme analysis rule database 32<sub>10</sub>, the theme analysis results 32<sub>8</sub> are output, as shown in FIG. 14B, for example (in a step  
5 S132).

FIG. 14A shows an example of the theme analysis rule. In this example, according to this rule, the following matters are determined:

(a) whether output is made in summary or  
10 in detail; (b) a range of selecting themes; (c) which matters are emphasized in the output; (d) which items are output in the output in detail; (e) whether the number of themes in level-1 or level-2 is output; (f) whether a theme ID for which the  
15 number of message in level-1 or level-2 is more than a predetermined number is output; and so forth.

FIG. 14B shows an example of an output of theme analysis results for added themes in the output in detail.

20 A possible form of the present invention is 'a method in which the user class of products/services gives messages for specific themes, the contents of the series of the messages of the user class are stored together with titles thereof,  
25 the themes are updated appropriately based on the titles of the thus-stored messages, the contents of the messages of the user class are analyzed, and, thereby, user characteristics such as lifestyles, subconscious needs and so forth are drawn out  
30 therefrom'.

FIG. 15 shows a general-purpose computer to which the present invention can be applied.

The computer shown in FIG. 15 includes a CPU 100 performing processing/operation according to  
35 the present invention described above by executing instructions written in a software program, which is originally recorded in a carriable recording medium

such as a CD-ROM 151, is read therefrom through a CD-ROM drive 150, is written into a hard-disk drive 140, then is read by the CPU 100.

5 This computer can communicate with other terminals of the users/members of the network community, via the network such as Internet through an appropriate communication device 160. The organizer/staff of the community can input various information such as the themes, keywords, and so  
10 forth to the HDD 140 through an input device 120 such as a mouse, keyboard, and so forth, and draw various information such as real intention of the user class of specific products/services from the HDD 140 through a display device 130 or a printer  
15 170. The HDD is used for storing the various databases mentioned above of the present invention.

The present invention is not limited to the above-described embodiment, and variations and modifications may be made without departing from the  
20 scope of the present invention.

The present application is based on Japanese priority applications No. 2000-099377, filed on March 31, 2000, the entire contents of which are hereby incorporated by reference.

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2000-099377